LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in this application.

33. (previously presented) A prosthesis for implantation between a first spinous process and a second spinal process, the prosthesis comprising:

first and second halves each comprising a process portion, each process portion being sized and configured to be placed on either side of the first and second spinous processes and a coupling portion, each coupling portion having an axis and configured for insertion between the first and second spinous processes, the coupling portions being sized and configured to be elastically deformable ~~into the interspinal space between adjacent vertebrae~~, each process portion configured and dimensioned to prevent advancement into the interspinal space;

wherein the coupling portion of the first half is configured to receive at least a portion of the coupling portion of the second half, the coupling portions having an unlocked configuration in which the halves are axially separable from one another and a locked configuration in which the halves are axially fixed with respect to each other.

34. (previously presented) The prosthesis of claim 33, the coupling portion of the first half further comprising a recess, the coupling portion of the second half further comprising a projection configured to be received within at least a portion of the recess.

35. (previously presented) The prosthesis of claim 34, the coupling portions of the first and second halves further comprising a key and a complementary keyway configured to prevent rotation between the first and second halves.

36. (previously presented) The prosthesis of claim 33, further comprising a locking feature for configuring the first and second halves to the locked configuration.

37. (withdrawn) The prosthesis of claim 36, wherein the locking feature comprises a bolt having a threaded portion configured to be threadably engaged by a correspondingly threaded portion of the projection.

38. (withdrawn) The prosthesis of claim 37, wherein the bolt further comprises a head portion configured to axially engage a portion of the first half such that rotation of the locking member in a first direction draws the first and second halves together.

39. (withdrawn) The prosthesis of claim 36, wherein the locking feature comprises a bolt and a nut, the bolt having a head configured to engage an outer surface of the first half and the nut having a surface configured to engage an outer surface of the second half.

40. (withdrawn) The prosthesis of claim 36, wherein the locking feature comprises at least one wire configured to pass through a bore in the recess and projection.

41. (withdrawn) The prosthesis of claim 36, wherein the locking feature comprises complementary threads on at least a part of each coupling portion so that the first and second halves may be screwed together

42. (withdrawn) The prosthesis of claim 41, wherein the first and second halves further comprise complementary ratchet teeth, which, when engaged, allow relative rotation between the halves in a first direction and prevent relative rotation between the halves in the opposite direction.

43. (previously presented) The prosthesis of claim 33, wherein at least a portion of at least one of the first and second halves is made of an elastomeric material.

44. (previously presented) The prosthesis of claim 33, wherein at least a portion of at least one of the first and second halves is made of a metallic material.

45. (previously presented) The prosthesis of claim 33, wherein at least a portion of at least one of the first and second halves further comprises a surface for enhancing bone growth.

46. (previously presented) The prosthesis of claim 45, wherein the surface has a roughened profile.

47. (previously presented) The prosthesis of claim 45, wherein the surface comprises a hydroxyapatite coating.

48. (previously presented) The prosthesis of claim 33, the coupling portions configured to substantially prevent compression of the interspinal space when the coupling portions are inserted in the interspinal space.

49. (previously presented) The prosthesis of claim 48, the process portions configured to retain the coupling portions within the interspinal space when the coupling portions are set in the locked configuration.

50. (previously presented) The prosthesis of claim 33, wherein the first half comprises at least one radially-projecting tab and the second half comprises a groove, at least a portion of the tab receivable within the groove when the coupling portions are engaged to prevent relative rotational movement of the first and second halves.

51. (currently amended) The prosthesis of claim [[33]] 34, the recess comprising an internal stop surface configured to axially engage an end surface of the projection.

52. (previously presented) The prosthesis of claim 33, wherein the coupling portion of the first half comprises a cross-sectional dimension of from about 50 square millimeters (mm.sup.2) to about 300 mm.sup.2.

53. (previously presented) The prosthesis of claim 33, wherein the process portions of the first and second halves each have a cross sectional dimension of from about 70 mm.sup.2 to about 500 mm.sup.2.

54. (withdrawn) The prosthesis of claim 33, wherein the coupling portion of the first half is elastic to allow expansion and/or contraction of the coupling portion.

55. (withdrawn) The prosthesis of claim 33, wherein the first coupling portion comprises first and second recesses forming an internal shoulder, the second coupling portion comprises a prong having a shoulder configured to engage the recess shoulder, the prong further having a compressed position and an uncompressed position, the prong configured to the compressed position when in contact with the first recess and configured to an at least substantially uncompressed position when in contact with the recess shoulder.

56. (withdrawn) The prosthesis of claim 55, the prong further comprising an elastomeric material, wherein engaging the prong with the recess shoulder configures the first and second halves in the locked configuration.

57. (withdrawn) The prosthesis of claim 55, wherein the prong comprises at least one slot configured to render the prong elastically compressible.

58. (withdrawn) The prosthesis of claim 57, wherein engaging the prong with the recess shoulder configures the first and second halves in the locked configuration.

59. (withdrawn) The prosthesis of claim 58, further comprising a pin configured to be received within a bore in the prong to prevent the prong from being configured in the compressed position.

60. (currently amended) An interspinal prosthesis for implantation between a first spinous process and a second spinal process, the prosthesis comprising:

a first half comprising a coupling portion and a process portion, the coupling portion having a bore and configured for insertion into the interspinal space between the first spinous process and the second spinal process ~~a pair of adjacent vertebrae~~, the process portion being sized and configured to be placed on one side of the first and second spinous processes ~~configured~~ and being sized and configured to prevent its advancement into the interspinal space;

a second half comprising a coupling portion and a process portion, the coupling portion configured to be received within the bore of the coupling portion of the first half, the process portion being sized and configured to be placed on the other side of the first and second spinous processes ~~configured~~ and being sized and configured to prevent advancement into the interspinal space;

a locking mechanism for axially locking the first and second halves together after at least the coupling portion of the first half has been inserted into the interspinal space;

wherein the coupling portion of the first and second halves are sized and configured to be elastically deformable such that the coupling portion in the area between the first and second spinous processes has an unstressed diameter and a deformed diameter, said deformed diameter being between about 10% to about 50% of the unstressed diameter. ~~axially locking the first and second halves together restricts compression of the interspinal space~~.

61. (previously presented) The interspinal prosthesis of claim 60, the first and second halves comprising an assembled condition and an unassembled condition, the coupling portions of the first and second halves insertable into the interspinal space in the unassembled condition, wherein engaging the coupling portion of the first half with the coupling portion of the second half configures the halves in the assembled condition.

62. (withdrawn) The interspinal prosthesis of claim 60, wherein the locking mechanism comprises inner threads on the bore of the first half configured to mate with outer threads on the coupling portion of the second half such that the first and second halves can be screwed together.

63. (withdrawn) The interspinal prosthesis of claim 62, the locking mechanism further comprising corresponding engageable ratchet teeth formed on the first and second halves to prevent unthreading of the first and second halves once the halves have been screwed together.

64. (previously presented) The interspinal prosthesis of claim 60, wherein the coupling portions of the first and second halves comprise complementary key and keyway surfaces configured to prevent rotation of the two portions with respect to each other.

65. (withdrawn) The interspinal prosthesis of claim 64, wherein the locking mechanism comprises a nut and bolt combination, the shank of the bolt receivable in complementary bores in the coupling portions of the first and second halves.

66. (withdrawn) The interspinal prosthesis of claim 60, wherein the locking mechanism comprises a shoulder in the first half configured to receive a compressible prong on the second half.

67. (withdrawn) The interspinal prosthesis of claim 66, wherein the locking mechanism further comprises a pin configured to be received within a bore of the compressible prong to render the prong substantially incompressible.

68. (withdrawn) The interspinal prosthesis of claim 60, wherein the locking member comprises at least one wire configured to pass through a bore in the recess and projection.

69. (previously presented) The interspinal prosthesis of claim 60, wherein at least a portion of at least one of the first and second halves is made of an elastomeric material.

70. (previously presented) The interspinal prosthesis of claim 60, wherein at least a portion of at least one of the first and second halves is made of a metallic material.

71. (previously presented) The interspinal prosthesis of claim 60, wherein at least a portion of at least one of the first and second halves further comprises a surface for enhancing bone ingrowth.

72. (previously presented) The interspinal prosthesis of claim 71, wherein the surface has a roughened profile.

73. (previously presented) The interspinal prosthesis of claim 71, wherein the surface comprises a hydroxyapatite coating.

74. (previously presented) The prosthesis of claim 60, the coupling portions configured to substantially prevent compression of the interspinal space when the coupling portions are inserted in the interspinal space.

75. (previously presented) The prosthesis of claim 74, the process portions configured to retain the coupling portions within the interspinal space when the coupling portions are in the locked configuration.

76. (previously presented) The prosthesis of claim 60, wherein the first half comprises at least one radially-projecting tab and the second half comprises a groove, at least a portion of the tab receivable within the groove when the coupling portions are engaged to prevent relative rotational movement of the first and second halves.

77. (previously presented) The prosthesis of claim 60, wherein the coupling portion of the first half comprises a stop surface configured to axially engage the second half.

78. (previously presented) The prosthesis of claim 77, wherein stop surface is configured to separate the process portions of the first and second halves by an amount in the range of from about 2 mm to about 15 mm.

79. (previously presented) The prosthesis of claim 60, wherein the coupling portion of the first half comprises a cross-sectional dimension of from about 50 mm.sup.2 to about 300 mm.sup.2.

80. (previously presented) The prosthesis of claim 79, wherein the process portions of the first and second halves each have a cross sectional dimension of from about 70 mm.sup.2 to about 500 mm.sup.2.

81.-91 (canceled)